1. A spin valve recording head, comprising:

a first dielectric layer on a magnetic shield;

on said first dielectric layer, a GMR enhancing seed layer;

on said seed layer, a first antiferromagnetic layer;

on said first antiferromagnetic layer, a bottom spin valve pedestal that further comprises a capping layer on a free layer on a non-magnetic spacer layer on a pinned layer, said pedestal having sidewalls that slope outwards away from the capping layer;

a part of the pinned layer, away from the capping layer, having been removed;

on the sidewalls, a decoupling layer that is between about 30 and 50 Angstroms thick;

on the decoupling layer only, a first layer of soft ferromagnetic material;

on said first layer of soft ferromagnetic material only, a second antiferromagnetic layer;

on the second antiferromagnetic layer, a conductive lead layer that overlaps the first soft ferromagnetic and second antiferromagnetic layers and contacts the capping layer; and

on the capping layer and conductive layer, a second dielectric layer.

2. The spin valve recording head described in claim 1 wherein said decoupling layer is selected from the group consisting of tantalum, tantalum oxide, and tantalum nitride.

3. The spin valve recording head described in claim 1 wherein the pinned layer further comprises:

a second soft ferromagnetic layer on said first antiferromagnetic layer,

a layer of ruthenium on the second soft ferromagnetic layer, and

a third soft ferromagnetic layer, magnetized in an anti-parallel direction relative to the second soft ferromagnetic layer, on said ruthenium layer.

4. The spin valve recording head described in claim 3 wherein the part of the pinned layer that has been removed is all of the third soft ferromagnetic layer, all of the ruthenium layer, and less than about 15 Angstroms of the second soft ferromagnetic layer.

5. The spin valve recording head described in claim 1 wherein said first antiferromagnetic layer is selected from the group consisting of MnPt, MnNi, IrMn, and MnPdPt.

6. The spin valve recording head described in claim 1 wherein said first antiferromagnetic layer has a thickness between about 80 and 200 Angstroms.

7. The spin valve recording head described in claim 1 wherein the first soft ferromagnetic layer is selected from the group consisting of NiFe and CoFe.

8. The spin valve recording head described in claim 1 wherein the first soft ferromagnetic layer has a thickness between about 50 and 200 Angstroms.

9. The spin valve recording head described in claim 1 wherein the first dielectric layer has a thickness between about 100 and 300 Angstroms.

10. A process for manufacturing a spin valve recording head, comprising:

providing a first dielectric layer on a magnetic shield;

on said first dielectric layer, depositing a GMR enhancing seed layer;

on said seed layer, depositing a first antiferromagnetic layer;

in succession, depositing on said first antiferromagnetic layer a pinned layer, a non-magnetic spacer layer, a free layer, and a capping layer, thereby forming a bottom spin valve stack;

on the capping layer, forming an etch mask that defines a pedestal;

using said mask, etching the stack until all unprotected parts of said capping layer, free layer, and spacer layer and a part of said pinned layer have been removed, thereby forming a pedestal, said pedestal having outwardly sloping sidewalls that extend from the capping layer to the unremoved portion of the pinned layer;

on the sidewalls, depositing a decoupling layer that is between about 20 and 50 Angstroms thick;

on the decoupling layer only, depositing a first layer of soft ferromagnetic material;

on said first layer of soft ferromagnetic material only, depositing a second antiferromagnetic layer;

on the second antiferromagnetic layer, depositing a conductive lead layer that overlaps the first soft ferromagnetic and second antiferromagnetic layers and contacts the capping layer; and

on the capping layer and conductive layer, depositing a second dielectric layer.

11. The process described in claim 10 wherein the decoupling layer is selected from the group consisting of tantalum, tantalum oxide, and tantalum nitride.

12. The process described in claim 10 wherein the step of depositing the pinned layer further comprises:

depositing a second soft ferromagnetic layer on said first antiferromagnetic layer,

depositing a layer of ruthenium on the second soft ferromagnetic layer, and

depositing a third soft ferromagnetic layer on said ruthenium layer.

13. The process described in claim 12 wherein said part of the pinned layer that is removed during said etching step is all of the third soft ferromagnetic layer, all of the ruthenium layer, and less than about 15 Angstroms of the second soft ferromagnetic layer.

14. The process described in claim 10 wherein said first antiferromagnetic layer is

selected from the group consisting of MnPt, MnNi, IrMn, and MnPdPt.

15. The process described in claim 10 wherein the first antiferromagnetic layer is deposited to a thickness between about 80 and 200 Angstroms.

16. The process described in claim 10 wherein the first soft ferromagnetic layer is deposited to a thickness between about 50 and 200 Angstroms.

17. The process described in claim 10 wherein said first soft ferromagnetic layer is selected from the group consisting of NiFe and CoFe.

18. The process described in claim 10 wherein said second antiferromagnetic layer is selected from the group consisting of IrMn, PtMn, and NiMn.

19. The process described in claim 10 wherein the second antiferromagnetic layer is deposited to a thickness between about 50 and 200 Angstroms.

20. The process described in claim 10 wherein the first dielectric layer is deposited to a thickness between about 50 and 300 Angstroms.

21. The process described in claim 10 wherein the step of etching the pedestal further

comprises use of ion milling whereby said sidewalls may be provided with a predetermined profile.